

REMARKS

This Amendment is fully responsive to the non-final Office Action dated November 13, 2009, issued in connection with the above-identified application. Claims 1-14 are pending in the present application. With this Amendment, claims 1-3, 6, 10 and 12-14 have been amended; and claim 11 has been canceled without prejudice or disclaimer to the subject matter therein. No new matter has been introduced by the amendments made to the claims. Favorable reconsideration is respectfully requested.

The Applicants have amended the specification and the abstract. The amendments to the specification and the abstract are editorial in nature. Replacement portions of the specification and a replacement abstract are provided. No new matter has been introduced by the amendments made to specification and the abstract.

In the Office Action, claims 1-13 have been rejected under 35 U.S.C. 102(e) as being anticipated by Powers et al. (U.S. 7,424,632, hereafter "Powers"), and claim 14 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Powers.

The Applicants have amended independent claims 1, 13 and 14 to more clearly distinguish the present invention from the cited prior art. Independent claim 1 (as amended) recites the following features:

“[a] communication device for communicating via a network to provide a service to another communication device on the network, the communication device comprising:

a main processing unit operable to process a main service to be provided to the other communication device;

a communication processing unit operable to transmit and receive request information and response information corresponding to the request information with the other communication device via the network; and

a power supply unit operable to stop supplying power to said main processing unit while in a state of being able to supply the power again and operable to supply the power to said communication processing unit,

wherein said communication processing unit comprises:

an alive packet transmitting unit operable to transmit an alive packet periodically at a predetermined time, the alive packet indicating that the communication device is in a state of being able to provide the service and including at least address information of the

communication device;

a response possibility determining unit operable to determine whether or not said communication processing unit is individually able to respond to the request information received from the other communication device which has received the alive packet;

a response unit operable to create the response information and to transmit the response information to the other communication device, when the determination indicates that the response is possible; and

a power supply controlling unit operable to start said main processing unit, to control said power supply unit, and to supply the power to said main processing unit, when the determination indicates that the response is not possible.” (Emphasis added).

The features emphasized above in independent claim 1 are similarly recited in independent claim 13 and 14 (as amended). That is, independent claim 14 is a semiconductor device having a communication device with the same features emphasized above in the device of claim 1; and claim 13 is a communication method having steps directed to the features emphasized above in the device of claim 1. Additionally, the features emphasized above in independent claim 1 (and similarly recited in independent claims 13 and 14) are fully supported by the Applicants’ disclosure (see e.g., ¶ [0052]- ¶ [0055]; and ¶ [0072]).

The present invention (as recited in independent claim 1 and similarly recited in independent claims 13 and 14) is distinguishable from the cited prior art in that an alive packet transmitting unit (or step) of a communication device (or method) is operable to transmit an alive packet periodically that indicates that the communication device is in a state of being able to provide a service and including at least address information of the communication device.

In the protocol such as UPnP, a client device determines that a service providing device is in a state where a communication device (e.g., in the service providing device) can provide the service, by periodically receiving a packet (i.e., alive packet) indicating that the service providing device is in a state where a communication device can provide the service.

The client device determines that the service providing device is in a state where the communication device can provide the service, only when the client device periodically receives the alive packet. Thus, the client device can detect that the service providing device is no longer connected, even when the service providing device terminates the processing due to loss of power or the like without being able to notify the client device that the service is cancelled.

Moreover, even in a state where the power of the main processing unit of the service providing device is in an "off" state (i.e., in a state where the service providing device cannot provide the service), a network processing unit is able to periodically transmit the alive packet. As a result, it is possible for the service providing device to notify the client device that the service device is in a state where the communication device can provide the service and to receive a request from the client device while reducing the power consumption.

In the Office Action, the Examiner relies on Powers for disclosing or suggesting all the features recited in independent claims 1, 13 and 14. However, the Applicants assert that Powers fails to disclose or suggest the features now recited in independent claims 1, 13, 14, as amended.

Powers discloses or suggests a system and method that manage a state machine's wake state to facilitate power management. A state manager receives signals transmitted to a state machine that has transitioned to a lower power state. When a signal is transmitted to the state machine, the state manager can initially receive the signal rather than the state machine. The state manager interprets the signal and determines whether a low power coprocessor can respond to the signal. If the low power coprocessor can respond, then the coprocessor responds while the state machine remains in the lower power state.

In the Office Action, the Examiner relies specifically on col. 7, lines 28-36 of Powers for disclosing or suggesting the alive packet transmitting unit (or step) of the present invention. However, Powers at col. 7, lines 28-36 states the following:

"[o]nce activated, the coprocessor 250 can respond to the incoming signal. In one instance, a single response can adequately service the incoming signal. For example, the incoming signal can be an IP address request. The coprocessor 250 can respond by broadcasting a message that includes the IP address of the computer 210. In other instances, the coprocessor 250 can initiate dialogue with the owner of the incoming signal, for example, to obtain further information and/or clarify the information received."

In Powers, upon receipt of the service request (incoming signal), the coprocessor responds by a single response. That is, even if the message including the IP address broadcasted by the coprocessor is interpreted as an "alive packet," the broadcasting is clearly an example of a single response to the incoming signal by the coprocessor. Powers fails to disclose that an alive packet is periodically sent when no request is made from other communication devices, as in the present invention.

Thus, Powers fails to disclose or suggest an alive packet transmitting unit (or method) operable to transmit an alive packet periodically at a predetermined time, wherein the alive packet indicates that a communication device is in a state to be able to provide a service and includes at least address information of the communication device, as in the present invention (as recited in independent claims 1, 13 and 14).

Based on the above discussion, Powers fails to anticipate or render obvious independent claims 1, 13 and 14. Additionally, Powers fails to anticipate or render obvious claims 2-10 and 12 at least by virtue of their dependencies from independent claim 1.

In light of the above, the Applicants submit that all the pending claims are patentable over the prior art of record. The Applicants respectfully request that the Examiner withdraw the rejections presented in the outstanding Office Action, and pass this application to issue. If any points remain in issue which the Examiner feels may best be resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

Satoshi ITO et al.

By /Mark D. Pratt/
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Mark D. Pratt
Registration No. 45,794
Attorney for Applicants

MDP/ats
Washington, D.C. 20005-1503
Telephone (202) 721-8200
Facsimile (202) 721-8250
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